Issue

While running a DTR reconfigure using `--nfs-storage-url` to specify an external NFS storage location, the reconfigure fails with the following error:

```
error resolving passed in nfs address
```

For example:

```
ERROR[0008] Failed to verify NFS: Problem running container 'dtr-nfs-test' from image 'docker/dtr:2.4.3': Error response from daemon: Error response from daemon: error while mounting volume '/var/lib/docker/volumes/dtr-nfs-test/_data': error resolving passed in nfs address: lookup 10.10.11.225:: no such host
```

The IP address in the error above (`10.10.11.225:`) is not a valid IPv4 address, as the `:` character is not part of valid IPv4 notation.

Alternatively, instead of an IP address, you may have specified a FQDN or hostname which resolves to an IP address. For example, if your NFS server's hostname is `mynfshost`,

```
# getent hosts mynfshost
10.10.11.225    mynfshost
```

then the `reconfigure` would throw an error such as this:

```
ERROR[0009] Failed to verify NFS: Problem running container 'dtr-nfs-test' from image 'docker/dtr:2.4.3': Error response from daemon: Error response from daemon: error while mounting volume '/var/lib/docker/volumes/dtr-nfs-test/_data': error resolving passed in nfs address: lookup mynfshost:: no such host
```

This doesn't mean that `mynfshost` cannot be resolved, it means the hostname `mynfshost:` (including the colon) cannot be resolved. A colon is not a valid hostname character.

Prerequisites

Before performing these steps, you must meet the following requirements:

- Is the NFS server reachable?
- Can you successfully mount the NFS share to a (temporary) local mount point on the DTR replica node? Are you able to create/delete test files/dirs via this mount?

Root Cause

The root cause is an extraneous `:` character being passed as part of the NFS URL. It's not immediately obvious from the error message, as you might not notice the double-colon after the hostname/IP address returned in the error.

As such (per the first example shown above), the code is trying to resolve `10.10.11.225::`, and since the colon is being included when trying to validate the hostname/IP, it fails.
It's possible that the extraneous colon was included out of habit, due to how NFS shares are typically mounted from Linux, eg,

```
# mount mynfshost:/path /mnt/localpath
```

and then the same hostname:/path was used with the full `--nfs-storage-url` declaration during the DTR reconfigure.

## Resolution

Remove the `:` and try again.

For example, if you prepare for your reconfigure command using variables such as these:

```
NFSURL=nfs://10.10.11.225:/dtrstore
DTRVER=2.4.3
UCPURL=myucphost
UCPADMIN=admin
UCPPASS=docker
DTREXURL=mydtrhost
REPLID=b605ef4356e7
```

and then proceed with the `reconfigure` as so:

```
docker run -it --rm docker/dtr:${DTRVER} reconfigure --debug --ucp-insecure-tls --ucp-url ${UCPURL} --ucp-username $UCPADMIN --ucp-password $UCPPASS --nfs-storage-url ${NFSURL} --dtr-external-url ${DTREXURL} --existing-replica-id ${REPLID}
```

then the easy fix is to change the `NFSURL` variable as follows:

```
NFSURL=nfs://10.10.11.225:/dtrstore
```

(note the `:` which has been removed from previously)

and then retry the `reconfigure` command.

As a reminder, if you're using a resolvable hostname for your NFS server, then using the `mynfshost` per the example referenced earlier, you would change this:

```
NFSURL=nfs://mynfshost:/dtrstore
```

to this:

```
NFSURL=nfs://mynfshost:/dtrstore
```

and retry the `reconfigure` command shown above.

## What's Next

- [DTR reconfigure CLI reference](https://success.docker.com/api/asset/%2Ferror-resolving-passed-in-nfs-address%2Fincludes--nfs-storage-url)
  (https://docs.docker.com/datacenter/dtr/2.4/reference/cli/reconfigure/)
- RFC 1630 - A Unifying Syntax for the Expression of Names and Addresses of Objects on the Network as used in the World-Wide Web (https://www.w3.org/Addressing/rfc1630.txt)
- TechTerms URL definition (https://techterms.com/definition/url)